L13 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:241914 CAPLUS <<LOGINID::20080331>>
DOCUMENT NUMBER: 144:450850
TITLE: Influence of mono-substitution of hexakis(3,6-anhydro)cyclomaltohexaose on its complexation properties with ions, with special attention to heavy metals
AUTHOR(S): Rambaud, Lauriane; Dalbiez, Jean-Pierre; Amekraz, Nadia; Moulin, Christophe; Perly, Bruno; Baudin, Cecile
CORPORATE SOURCE: CEA, DRECAM/SCM, CEA Saclay, Gif-sur-Yvette, 91191, Fr.
SOURCE: European Journal of Organic Chemistry (2006), (5), 1245-1250
CODEN: EJOCFK; ISSN: 1434-193X
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 144:450850
AB We report on the synthesis, characterization and ionic complexation properties of mono-2-O-carboxymethyl-hexakis(3,6-anhydro)cyclomaltohexaose sodium salt (I), as investigated by TLC and NMR. We demonstrate that the grafting of a carboxylate group not only modifies the complexation properties of the parent derivative in relation to heavy metals but also improves them. In this respect, we provide evidence that the gain in affinity is due to the cumulative effects of the mol. cage and the carboxylate group. Coupling of I to insol. supports (bio-polymers, liposomes, ...) might be expected to afford new materials for the elimination of toxic metals in biol. fluids or organs.
REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:650987 CAPLUS <<LOGINID::20080331>>
DOCUMENT NUMBER: 141:174407
TITLE: Per(3,6-anhydro)cyclodextrin derivatives, their preparation and their use for delivery of metal elements to biological targets or for decontamination of biological targets or fluids
INVENTOR(S): Baudin, Cecile; Perly, Bruno; Dalbiez, Jean Pierre
PATENT ASSIGNEE(S): Commissariat a l'Energie Atomique, Fr.
SOURCE: Fr. Demande, 47 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2850972	A1	20040813	FR 2003-1474	20030207
FR 2850972	B1	20050311		
WO 2004071639	A2	20040826	WO 2004-FR50048	20040206
WO 2004071639	A3	20041007		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1597284	A2	20051123	EP 2004-708796	20040206
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2006522840	T	20061005	JP 2006-502174	20040206
US 20070148090	A1	20070628	US 2005-544680	20050804
PRIORITY APPLN. INFO.:			FR 2003-1474 A	20030207
			WO 2004-FR50048 W	20040206

OTHER SOURCE(S): MARPAT 141:174407
AB Per(3,6-anhydro)cyclodextrin I, wherein R1 represents

a radical chosen among peptides, proteins, lipids, oligonucleotides, poly-nucleotides, oligosaccharides, polysaccharides, bio-polymers ; R1 independently represent OR, OR3, OM, HS, SR3, OCOR3, NH2, NHR3, NR3R4, CONH2, CONHR3, CONR3R4, CN, COOR3, OCH2COOH, COOH, OSO2R3, N3; R3 and R4 are identical or different, represent hydrocarbon, aliphatic, aromatic possibly substituted by atoms of halogen which can comprise one or more heteroatoms among O, S and N; M represents a selected monovalent cation among the alkaline metal cations; R2 represent a simple connection or a spacer group and n is 6-8. These derivs. are used in particular to convey metal elements towards biol. targets or to decontaminate biol. targets or fluids. Thus, [(mono-2-O-methyl-amido)-per(3,6-anhydro)-α- cyclodextrin]-L-Ala-L-Phe-OMe ester was prepared and formed complexes with Pb2+ and Er3+ cations.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:660734 CAPLUS <<LOGINID::20080331>>
DOCUMENT NUMBER: 132:8565
TITLE: Development of materials for chemical sensors-from molecular cavities to imprinting techniques
AUTHOR(S): Dickert, F. L.; Greibl, W.; Hayden, O.; Lieberzeit, P.; Silkorski, K.; Tortschanoff, M.; Weber, K.
CORPORATE SOURCE: Institute of Analytical Chemistry, Vienna University, Vienna, Austria
SOURCE: Advances in Science and Technology (Faenza, Italy) (1999), 25(Smart Materials Systems), 175-182
CODEN: ASETE5
PUBLISHER: Techna
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Taylored mol. cavities are widely used for chemical sensing applications. Cyclodextrins show an excellent ability to include organic solvent vapors into their cavities. Their shape can be tuned by derivatization of the mol. to make it suitable for the analyte of interest. Incorporation of the cyclodextrins into polymers yields sensitive layers which are mech. stable and protected against flooding. For the production of chemical sensitive layers compatible to technol. processes the concept of mol. imprinting of highly crosslinked polymers shows a great variety of prospects. Its major advantage is the synthetically easy yield of a sensitive material compatible to transducer technologies. It allows the design of sensor-layers e. g. for the distinction between the different isomers of xylene as well as a layer detecting polycyclic aromatic hydrocarbons in drinking water. Mol. imprinting is even suitable for anal. of very complex mixts. such as engine oils whose degradation can be monitored by the means of a sensor of this type.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:360817 CAPLUS <<LOGINID::20080331>>
DOCUMENT NUMBER: 131:8662
TITLE: Modified cyclodextrines as mass-sensitive coatings for solvent vapor detection
AUTHOR(S): Dickert, Franz L.; Geiger, Ulrich; Weber, Karin
CORPORATE SOURCE: Institut Analytische Chemie, Univ. Wien, Vienna, A-1090, Austria
SOURCE: Fresenius' Journal of Analytical Chemistry (1999), 364(1-2), 128-132
CODEN: FJACES; ISSN: 0937-0633
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Advances in robustness, selectivity, and sensitivity in organic solvent vapor detection can be achieved by the application of β-cyclodextrines as coatings for mass sensitive chemical sensors. Linking the cyclodextrines with e.g. diiodo octane combines the mol. recognition capabilities of host-guest chemical with the high stability of polymeric layers. Special increase in selectivity is achieved with anhydro cyclodextrines, since their flattened conus is adapted to benzene derivs. as can also be shown by computer modeling. Furthermore methylation elongates the cavity, guaranteeing an optimized engulfing of the analytes.

A differentiation between p- and m-xylene vapors and a QMB detection limit of some µL/L is possible.
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1999:161321 CAPLUS <<LOGINID::20080331>>
DOCUMENT NUMBER: 130:184022
TITLE: Effective approaches for estimating the functionalization pattern of carboxymethyl starch of different origin
AUTHOR(S): Heinze, Thomas; Pfeiffer, Katy; Liebert, Tim; Heinze, Ute
CORPORATE SOURCE: Institute Organic Chemistry Macromolecular Chemistry, Friedrich Schiller University, Jena, D-07743, Germany
SOURCE: Starch/Staerke (1999), 51(1), 11-16
CODEN: STARDJ; ISSN: 0038-9056
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Three types of differently prepared carboxymethyl starches were analyzed by HPLC and 1H-NMR spectroscopy after chain degradation In derivs. obtained in the conventional manner with values of the degree of substitution (DS) ≤0.85; glucose, mono- and di-O-carboxymethyl glucose were detected as building units. Comparison with statistic calcns. revealed an even distribution of functional groups along the chain. 1H-NMR studies confirmed a preferred substitution at the 2 position of the repeating unit. Comparable results were obtained for the carboxymethyl ether of amylose, amylopectin, and β- cyclodextrin. The anal. of carboxymethylated starch samples prepared using a new synthesis concept via a reactive microstructure also revealed a high DS achieved in a one-step synthesis as well as a non-statistic distribution of carboxymethyl groups along the chain. A significant amount of 2,3,4,6-tetra-O-functionalization, caused by the branched structure of starch, was found. Moreover, carboxymethylation of 6-O-triphenylmethyl starch and subsequent detritylation yields a regioselectively functionalized polymer consisting not only of the expected mono- and di-O-carboxymethylated repeating units also containing a significant amount of 2,3,4-tri-O-functionalized anhydro-glucose units.
REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1997:289431 CAPLUS <<LOGINID::20080331>>
DOCUMENT NUMBER: 126:340302
TITLE: Efficient purification, characterization and partial amino acid sequencing of two α-1,4-glucan lyases from fungi
AUTHOR(S): Yu, Shukun; Christensen, Tove M. I. E.; Kragh, Karsten M.; Bojsen, Kirsten; Marcussen, Jan
CORPORATE SOURCE: Danisco Biotechnology, Danisco A/S, Langebrogade 1, PO box 17, DK 1001, Copenhagen K, Den.
SOURCE: Biochimica et Biophysica Acta, Protein Structure and Molecular Enzymology (1997), 1339(2), 311-320
CODEN: BBAEDZ; ISSN: 0167-4838
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB α-1,4-Glucan lyases from the fungi Morchella costata and M. vulgaris were purified by affinity chromatog. on β- cyclodextrin -sepharose, followed by ion exchange and gel filtration. The purified enzymes produced 1,5-anhydro-D-fructose from glucose oligomers and polymers with α-1,4-glucosidic linkages, such as maltose, maltosaccharides, amylopectin, and glycogen. The lyases were basically inactive towards glucans linked through α-1,1, α-1,3 or α-1,6 linkages. For both enzymes the mol. mass was around 121000 Da as determined by matrix-assisted laser desorption mass spectrometry. The pI for the lyases from M. costata and M. vulgaris was 4.5 and 4.4, resp. The lyases exhibited an optimal pH range of pH 5.5 to pH 7.5 with maximal activity at pH 6.5. Optimal temperature was between 37° and 48° for the two lyases, depending on the substrates. The lyases were examined with 12 inhibitors to starch hydrolases and it was found that they were

inhibited by the -SH group blocking agent PCMB and the following sugars and their analogs: glucose, maltitol, maltose, 1-deoxynojirimycin and acarbose. Partial amino acid sequences accounting for about 35% of the lyase polypeptides were determined In the overlapping region of the sequences, the two lyases showed 91% identity. The two lyases also cross-reacted immunol.

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1994:409849 CAPLUS <<LOGINID::20080331>>
DOCUMENT NUMBER: 121:9849
TITLE: The stereoselective synthesis of cyclomaltopentaose. A novel cyclodextrin homolog with d.p. five
AUTHOR(S): Nakagawa, Toshio; Ueno, Koji; Kashiwa, Mariko; Watanabe, Junko
CORPORATE SOURCE: Dep. Chem., Yokohama City Univ., Yokohama, 236, Japan
SOURCE: Tetrahedron Letters (1994), 35(12), 1921-4
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 121:9849
AB Key intermediate oligosaccharide I was prepared via successive stereoselective glycosidations of 1,6-anhydro maltose derivative II with glycosyl donors. Stereoselective intramol. cyclocondensatin of I gave title cyclomaltopentaose.

L13 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1991:429734 CAPLUS <<LOGINID::20080331>>
DOCUMENT NUMBER: 115:29734
TITLE: Syntheses and functions of polysaccharides having long hydrocarbon side chains
AUTHOR(S): Kobayashi, Kazukiyo
CORPORATE SOURCE: Fac. Agric., Nagoya Univ., Nagoya, 464-01, Japan
SOURCE: Yukagaku (1991), 40(5), 379-83
CODEN: YKGKAM; ISSN: 0513-398X
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A review with 16 refs. Topics include emulsan, a naturally occurring microbial surfactant polysaccharide, is an efficient emulsifier, trialkylcellulose prepared by esterification of cellulose forms Langmuir-Brodget membranes, cyclodextrins substituted with long alkyl chain in position 6 of each glucose unit are found to form monolayers, which bind guest mols. to assemble host-guest LB membranes, and three types of regiospecifically modified polysaccharides were synthesized via ring-opening polymns. of anhydro sugar derivs.

L13 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1966:466373 CAPLUS <<LOGINID::20080331>>
DOCUMENT NUMBER: 65:66373
ORIGINAL REFERENCE NO.: 65:12395d-f
TITLE: Conformation of amylose and its derived products. I. Infrared spectra of amylose and its oligomers m the amorphous solid phase and in solution
AUTHOR(S): Casu, B.; Reggiani, M.
CORPORATE SOURCE: Ist. Sci. Chim. Biochim., Milan
SOURCE: Staerke (1966), 18(7), 218-29
CODEN: STRAAG; ISSN: 0038-9056
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Ir spectra of amylose (I), α-D-glucose, β-maltose, maltotriose, maltotetraose, cellobiose, α,α-trehalose, cellulose, laminaran, linear dextran, branched dextran, xylan, amylodextrin (II), α- cyclodextrin (III), β- cyclodextrin (IV), and γ- cyclodextrin (V) in the solid form, derived by freeze drying aqueous solns. of each containing KBr and pressing the soft powders into disks, and in H2O, D2O, Me2O, and (CD3)2SO solns. were recorded over the 4000-400 cm.-1 region. Band assignments involving specific groups were made by consideration of band intensity in going from monomer to polymer, of changes observed in conversion of OH to OD, and of differences observed in the spectra of the several types of compds. containing

anhydro-D-glucopyranose units. The C1-H and C1-O bonds in I, II, III, IV, and V were assigned equatorial and axial positions, resp., based on their spectra. This assignment described the C1 conformation for the gluco-pyranose rings in these compds.